ADDITIONS TO THE FLORA OF ARKANSAS.—The latest, and most complete list of the flora of Arkansas, is the catalogue given by Leo Lesquereux in his report of a botanical survey of that State, made in 1860. The catalogue also gave the names of such species as were observed by M. Nuttall. I have found the following species in Arkansas in addition to those in the catalogue:

Anemone Caroliniana, Walt.
Thalictrum anemonoides, Michx.
Ranunculus abortivus, L.
R. pusillus, Poir.
Dicentra Cucullaria, DC.
Cleome pungens, Willd.
Viola pubescens, Ait., var. *eriocarpa*, Nutt.
V. blanda, Willd.
Silene Virginica, L.
Cerastium nutans, Raf.
Claytonia Caroliniana, Michx.
Linum sulcatum, Riddell.
Geranium Carolinianum, L.
Impatiens fulva, Nutt.
Ceanothus microphyllus, Michx.
Acer rubrum, L.
Polygala sanguinea, L.
Indigofera Anil, L.
Phaseolus diversifolius, Pers.
P. pauciflorus, Benth.
Galactia mollis, Michx. I presume the same plant is meant by the *G. pilosa*, Nutt., of the catalogue.
Cassia nictitans, L.
Agrimonia Eupatoria, L.
Amelanchier Canadensis, T. & G.
Ammannia humilis, Michx.
Jussiæa decurrens, DC.
Circæa Lutetiana, L.
Melothria pendula, L.
Pastinaca sativa, L.
Polytænia Nuttallii, DC.
Discopleura capillacea, DC.
Cicuta maculata, L.
Osmorrhiza longistylis, DC
Lonicera flava, Sims.
L. sempervirens, Ait.
Galium Aparine, L.
Oldenlandia glomerata, Michx.
Fedia radiata, Michx.
Aster miser, L.
Erigeron Philadelphicum, L.
E. strigosum, Muhl
Solidago puberula, Nutt.
Heterotheca scabra, DC.
Chrysopsis villosa, Nutt.
Coreopsis discoidea, T. & G.
C. aristosa, Michx
Antennaria plantaginifolia, Hook.
Lobelia brevifolia, near Little Rock, *Engelmann.*
L. puberula. Michx.
Halesia tetraptera, L.
Plantago Patagonica, Jacq. var. *gnaphalioides*, Gray.
Hottonia inflata, Ell
Collinsia verna, Nutt.
Gratiola sphærocarpa, Ell.
Gerardia tenuifolia, Vahl.
Leonurus Cardiaca, L.
Onosmodium Caroliniannum, DC.
Lithospermum angustifolium, Michx.
Cynoglossum Morisoni, DC.
Ellisia Nyctelea, L.
Cuscuta inflexa, Engelm.
Polypremum procumbens, L.
Forsteronia difformis, DC.
Asclepias quadrifolia, Jacq.
Gonolobus lævis, Michx.
Amarantus spinosus, L.
A. chlorostachys, Willd.
Polygonum incarnatum, Ell.
Rumex Engelmanni, Ledeb.
Stillingia sylvatica, L.
Crotonopsis linearis, Michx.
Maclura aurantica, Nutt.
Corallorhiza odontorhiza, Nutt.
Bletia aphylla, Nutt.
Pardanthus Chinensis, Ker.
Sisyrinchium Bermudiana, L.
Allium mutabile, Michx.
Uvularia grandiflora, Smith.
Juncus Canadensis, J. Gay.
Fimbristylis capillaris, Gray.
F. lasa, Vahl.
Carex crinita, Lam.
C. stenolepis, Torr.
C. vulpinoidea, Michx.
C. stipata, Muhl.
C. stellulata, L.
C. virescens, Muhl.
Alopecurus aristulatus, Michx.
Gymnopogon racemosus, Beauv.
Poa sylvestris, Gray.
Eragrostis poæoides, Beauv. var. *megastachya*, Gray.
Festuca nutans, Willd.
Uniola latifolia, Michx.
Elymus striatus, Willd.
Phalaris intermedia, Bosc.
Paspalum Floridanum, Michx.
Panicum latifolium, L.
Rottboellia cylindrica, Chapm.
Cheilanthes lanuginosa, Nutt.
Onoclea sensibilis, L.
Botrychium Virginicum, Swartz.

A few of the foregoing were included in Lesquereux's catalogue, but were marked as supposed to occur.—GEO. D. BUTLER, *Limestone Gap, Ind. Ter.*

THE STUDY OF FUNGI.—I wish to call the attention of botanists to the splendid opportunity for distinguishing themselves, which this Western country offers in the

study of Fungi. The fame waiting to reward the careful examination and study of the Fungi of the Mississippi Valley will be found sufficient to gratify the ambition of the most aspiring botanist.

The State of New York, perhaps, has been more thoroughly studied thus far in reference to its Fungal Flora than any other State of the Union. The State Botanist, Prof. Charles H. Peck, has now for several years devoted himself with unwearied industry to the identification of species with European forms and to the naming and describing of native species.

To illustrate what we may state in reference to Fungi in general let us take as an example the genus *Agaricus*. And I may here remark in passing that of this noble genus Prof. Peck has himself named and described nearly 150 species. More than half the species of this genus thus far found in North America are European and may be determined by the use of Cooke's Hand Book of British Fungi, or better still by Fries' Hymenomycetes Europæi. A large part of the remainder will be found in Prof. Peck's reports in the published volumes of the New York State Museum of Natural History. A few other species and all new species should be submitted to Prof. Peck or some other Fungologist for description.

The study of North American Fungi has as yet been chiefly confined to the Eastern United States; the Fungi of the Mississippi Valley have received but little attention. To illustrate what yet remains to be done for the Fungal Flora of North America let us refer again to the genus *Agaricus*. Elias Fries in his Hymenomycetes Europæi, Edition 2, 1874, enumerates 1,202 species. Scarcely 400 species of *Agaricus* have as yet been determined in this country. Who can say that the number of our species is greatly inferior to that of Europe? May it not be safe to say *that half the species, many genera, and some orders of North American Fungi are not yet studied?*

Mr. Charles C. Frost enumerates in the Amherst Catalogue upwards of 1,200 species of Fungi, all found in the single locality about Brattleboro, Vt. 155 species belong to the highest genus *Agaricus*, and nearly 600 to the highest family, the HYMENOMYCETES. It is not likely that every locality is so rich in species of Fungi as this one; but it is very probable that their number always exceeds that of the Flowering Plants.

The student will not find the genera and species of the higher Fungi, the AGARICINI and POLYPOREI, for example, any more difficult to make out than those of many orders of Flowering Plants. Prof. Peck's Twenty-third Report contains a Manual of the most common species of the higher Fungi, which forms a good introduction to the study of North American Fungi. Valuable directions in reference to the collection and preservation of specimens will be found in several of these Reports and especially in the Twenty-seventh.—A. P. MORGAN, *Dayton, Ohio*.

BOTANY IN JAPAN.—In a private letter from Dr. D. B. McCartee of the Imperial University of Japan, the following is of general interest:—[ED.]

"The Japanese have paid a great deal of attention to Botany, and have published many books, some of them quite expensive ones, on the subject. They arrange the genera after the Linnæan System, although some of them give the 'Natural Orders,' substituting Japanese names for the English or Latin ones. The illustrations are quite well drawn and the minute parts are frequently drawn magnified, so that with the habitat and description accompanying, the identification is generally comparatively easy. The Japanese also have colleges of Agriculture, and publish a Monthly Magazine on agricultural subjects, and the Department of Education is now issuing a work in parts on the economical products of the different provinces of Japan, with well executed illustrations.

SOME NOTES ON VARIATIONS IN PLANTS IN IOWA (observed for the most part in July and August, 1873).—A white *Vernonia*, found near Chariton, apparently a var. of *Vernonia fasciculata*, Michx., specimens fine and abundant.